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(54) Title: RECOMBINANT VIRUSES WITH HETEROLOGOUS ENVELOPE PROTEINS

(57) Abstract: The invention provides recombinant viruses comprising heterologous envelope proteins capable of mediating entry of the recombinant viruses into host cells. In one embodiment, a recombinant virus of the invention is a member of the *Paramyxoviridae* family (e.g., a respiratory syncytial virus), and the heterologous envelope protein includes the ectodomain of a baculovirus envelope protein (e.g., the GP64 protein). In some cases, the heterologous envelope protein is provided in addition to homologous envelope proteins which may or may not be functional. The heterologous protein can provide the recombinant virus with enhanced stability (e.g., at 4 °C, 22 °C, or 37 °C), and allows production of high-titer virus stocks. The heterologous protein can also impart temperature sensitivity to the replication of the recombinant virus. In addition, the recombinant virus can be designed to be infectious but incapable of spreading between host cells by providing the heterologous protein by complementation in trans. These features attenuate the disease-causing potential of the recombinant virus, therefore increasing its safety of use as vaccines.